Cytoskeleton
Methods and Protocols
Second edition, 2010
Ray H. Gavin (Ed)
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Ray H. Gavin, from the Brooklyn College of The City University of New York, Brooklyn, NY, USA, wrote a few line as preface of this book. This is quite understandable: there is not a great need of words when there are facts that sustain and favour the dissemination of a cultural product. This is the case of the second edition of *Cytoskeleton - Methods and Protocols*, which appears just ten years after the first edition. The first sentence of prof. Gavin's preface reads: "In the ten years since the publication of the first edition, great advances in fluorescent labeling, optics, and sample preparation have significantly improved the imaging capability of microscopy." Right. And as a clear consequence, all of these achievements have immensely advanced our understanding of the dynamic nature (composition, constitution, organization) of this intriguing cellular component. In this second edition it is particularly stressed the cytoskeleton study at the different levels of life organization and thus not only animal and plant model systems are highlighted, but also protist and fungal model systems taking advantage of the most cutting-edge techniques for the analysis of: - live-cell imaging (part I), - dynamics of actin filaments and microtubules (part II), - fluorescence microscopy protocols (prat III), - electron microscopy protocols (part IV), - cell and organelle motility (part V), - genetic and proteomics approaches to elucidate the cytoskeleton protein function (part VI).

As an already established as a classical feature of the Springer methods series, each of the twenty two chapters incorporate a clear introduction, a useful lists of the necessary materials and reagents and the usual (so appreciated by beginners) step-by-step laboratory protocols to avoid the troubleshooting and pitfalls of the bench journey.

Cell and developmental biologists are the primary targets as an audience, but it is so reductive to address to a restricted readership when the related topics cover a wide range of pupils involved in live-cell imaging techniques (i.e., see *High Resolution Multimode Light Microscopy of Cell Migration and Imaging the Cytoskeleton in Live Xenopus laevis Embryos or Live-Cell Imaging of the Cytoskeleton and Mitochondrial-Cytoskeletal Interactions in Budding Yeast and Imaging of the Cytoskeleton and Mitochondria in Fixed Budding Yeast Cells*); those approaching the field by the classical methods for SEM and TEM analysis (*Strategies for Imaging Microtubules in Plant Cells*); or by the newest cutting-edge protocols for quantitative fluorescence microscopy (*Quantitative Fluorescence Microscopy Techniques and A FRET-Based Approach for Studying Conformational Changes of a Cytoskeleton Related Tumor Suppressor Molecule and Sample Preparation for Fluorescence Imaging of the Cytoskeleton in Fixed and Living Plant Roots*), till those employing proteomic tools for cytoskeleton researches.

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